

Additional Information Requirements For Peat Development Projects

Pursuant to Section 5(2) of the *Environmental Impact Assessment Regulation* of the Clean Environment Act, this document is intended to assist proponents in preparing a registration submission for projects involving the above-mentioned sector. It should be read in conjunction with the General Information Requirements as outlined in the latest version of the Registration Guide. Note that the following items are requirements **in addition to** those outlined in the Registration Guide. The information requested in the Registration Guide must also be provided. For further assistance, please contact the Project Assessment and Approvals Branch, Department of Environment at (506)-444-5382.

After reviewing a registration submission, the Technical Review Committee may require other information beyond the items listed below and in the Registration Guide.

Definition

Peat developments consist of the extraction of peat from peatlands (wetland areas), typically for horticultural use. The peat can be harvested by vacuum or by block cutting. Peat developments located on Crown Land also require a peat lease from DNR. To determine if registration is required for a specific project, please contact the Project Assessment and Approvals Branch at the number listed above.

1.0 THE PROPONENT

See Registration Guide

2.0 THE UNDERTAKING

iv) Project Location:

- Provide a 1:10,000 map indicating site location, and a colour aerial photograph of the site.
- All other peat and cranberry developments and agricultural activities within the watershed should also be indicated.

vi) Physical Components and Dimensions of the Project:

Provide a detailed description of the proposed project, addressing the requirements contained in the Registration Guide. For this class of project the required information includes but is not limited to the following:

- Outline the features and boundaries of the project on the aerial photograph, so that the features visible on the photograph are not obscured (e.g. use an acetate overlay or an electronic equivalent, or provide a second, unmarked photo).
- Any value-added processing components for this development should be described and their location should be shown on the photograph.
- If the project will consist of different phases that will be implemented over time, be sure to provide all available details on the location and layout of the future phases.
- Provide a drainage plan showing primary and secondary ditches, sedimentation ponds and the dimensions of each.
- On the air photo, show the location of any buildings and connector roads that will be used during site operations.
- Show the location of all proposed access roads and describe any required watercourse crossings, including the number and type of culverts and/or bridges,
- Describe the proposed method for controlling site access.

vii) Construction Details:

Provide a detailed description of the proposed construction activities and methods, addressing the requirements contained in the Registration Guide. For this class of project the required information includes but is not limited to the following:

- details of run-off management to be employed during construction;
- the preliminary design of any temporary watercourse diversions;
- the location of any stockpiles of imported fill materials and the source of these materials;
- the identity of the lakes/ponds to be drained, details of these lakes, reasons for draining these lakes, alternatives considered and the consequences of pursuing an alternative;
- the proposed use or disposal method of the non-commercial vegetated top layer of the peatland; and
- the proposed method of removal and disposal of grubblings (buried, hauled away, etc.).

viii) Operation and Maintenance Phase:

Provide a detailed description of the proposed project's operation and maintenance characteristics, addressing the requirements contained in the Registration Guide. For this class of project the required information includes but is not limited to the following:

Drainage

- Describe the location of the discharge from the sedimentation pond to the receiving watercourse(s) or the approximate area where the water will be released if flow will not be directed to a watercourse.
- Describe the timing, rate, volume and quality of water discharge.
- If the receiving watercourse has been classified under the *Water Classification Regulation*, or is in the process of being classified, the class should be stated and measures that will be taken to ensure that the class is maintained during operations should be described.
- Provide a scaled drawing (overview, profile and cross-section) of the drainage system including the sedimentation ponds and the drainage ditches.
- Describe the procedures for detecting and removing peat accumulations from the sedimentation ponds. What will become of the peat that has been removed from these ponds?
- If overland flow is proposed, include drawings of the direction of flow, dimensions of the flow path. Describe the thickness of the organic layer, the topography, and the characteristics of the soils in the overland flow path.

Peat Harvesting

- Describe the method of peat harvesting (vacuum, block cutting, etc.).
- Describe and show the location of the peat stockpiling areas, including dimensions, and schedule for pick up;

(ix) Future Modifications, Extensions or Abandonment:

The following information is to be provided regarding provided site restoration/reclamation *:

- the depth of peat planned to be left on site;
- the size and location of protected peatland that will not be harvested, but used for restoration;
- rehabilitation plans for the drainage ditches;

- details of pond/lake reconstruction to mimic pre-harvesting conditions; and
- details of restoration/reclamation plans and initiatives undertaken to date by the proponent or in conjunction with other agencies.

* Note that **restoration** is defined as the returning of peatlands to a functioning wetland ecosystem. The objective is to create conditions on the site that will recommence peat accumulation. **Reclamation** implies using the peatland for an alternate purpose, usually for agriculture, silviculture or waterfowl habitat.

3.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

Include all relevant environmental features as noted in the Registration Guide. Features of particular relevance to this class of project include but are not limited to the following:

Watercourses, Fish and Fish Habitat

- Show the locations of any lakes, ponds, watercourses or other water bodies and provide any names associated with these.
- Provide written descriptions of the above watercourse(s) and their surroundings. If available, photographs should be provided. For watercourses in close proximity to the development (please contact the Project Assessment Branch for confirmation) a fish and fish habitat survey will be required (see Appendix 1). Data sheets for the fish habitat and stream survey are to be submitted with the registration, fish habitat surveys should be done during periods of low flow.
- For watercourses in close proximity to the development, the following information will also be required:
 - the water quality of the watercourse(s) (dissolved oxygen, pH, suspended solids and general chemistry) must be sampled according to the *Guidelines for peat mining operations in New Brunswick*¹ and analytical results must be provided;
 - the form of metals during analysis should be indicated (total extractable, total dissolved - all samples should be acidified, non-filtered);
 - vanadium, tin and cobalt should be added to the list of existing parameters provided in the *Guidelines for peat mining operations in New Brunswick*¹);
 - water quality baseline sampling should be done at least once per season. Sampling is to be done in bottles supplied by an accredited lab that will be doing the analysis. The

¹ Thibault J.J. 1998. Guidelines for peat mining operations in New Brunswick. New Brunswick Department of Natural Resources and Energy, Minerals and Energy Division, Open file 98-7, 15 p.

- limits of detection for the metals should not be greater than the guideline for freshwater aquatic life. The detection limits for the requested parameters are to be equal or less than the *CCME Canadian Water Guidelines for the protection of Aquatic Life*;
- data shall be compared to the *CCME Canadian Water Guidelines for the protection of Aquatic Life* and further interpreted, any anomalies should be discussed;
 - provide comments from local residents (this could be undertaken during the public consultation component), local DFO fishery officer and DNR wardens should be documented and included in the fish survey;
 - describe the seasonal usage by fish and species found;
 - indicate the proximity of any shellfish harvesting site;
 - describe vegetation surrounding the watercourse;
 - describe the use of the watercourse(s) by anglers or other recreational users;
 - list any upstream and downstream demands on the receiving watercourse;
 - list any known water withdrawal including amount of water being withdrawn.
- Note that the required location and extent of stream surveys and fish habitat assessments (according to DNR/DFO stream survey requirements) should be established well in advance of the EIA registration. Please contact the Project Assessment Branch of the Department of the Environment and Local Government. The results of the surveys are to be submitted with the EIA registration package.

Wetlands

- The methodology described in Appendix 2 must be utilized to conduct a “Rare and Endangered Vascular Plants Survey” of the entire peatland area to be affected by the development, to the limits of any hydraulic effect of the development. In the case of Crown peatlands, the survey must be conducted for the entire peatland. The complete report **must** accompany the EIA registration document. **Please note - this survey must be conducted in August.**
- The size and height of the peatland to be exploited. Is it typical or representative of surrounding peatlands? Is the peatland owned by the crown or on private land?
- The history of the use of the peatlands in the area, including peat mining and cranberry operations should be described.

Peat Characteristics

- Representative samples of peat should be collected and analysed for metal mercury content. Location and depth of sampling should be determined based on an evaluation by a qualified individual but as a minimum should be sampled at three depths: (i) in the top 10 cm, (ii) approx. 30 cm and (iii) at approx. 70 cm.

Fauna

- A qualitative assessment of wildlife usage (birds, animals, etc.) should be undertaken by gathering information from local experts (Canadian Wildlife Service of Environment Canada, Regional DNR offices, Atlantic Canada Conservation Data Centre, New Brunswick Museum, local naturalists etc.) regarding migratory birds and wildlife use of the area including the presence/absence of species at risk.

Wind

- The monthly wind data (speed and direction) is to be provided and used to determine prevailing wind direction during peat harvesting season.

4.0 SUMMARY OF ENVIRONMENTAL IMPACTS

All anticipated impacts should be described and discussed. These will depend on the scope and complexity of the project as well as the project location. The impacts resulting from this class of project may include but are not limited to the following:

- water quantity and quality impacts;
- impacts of the proposed project, including habitat loss, on flora and fauna;
- potential flooding by uncontrolled discharge to watercourses;
- impacts on peatlands outside of the footprint of the operation;
- noise impacts on wildlife (operational and trucking);
- impacts of traffic volume on wildlife;
- impacts of traffic volume on nearby residents;
- the effect of the operation on potable water supplies of residences surrounding the peatland;
- impacts on nearby residents from wind blown peat particles; and
- impacts on nearby aquaculture facilities from wind blown peat particles.

The following points are offered for your information and consideration:

- On a peatland with multiple owners, the proponent must demonstrate that no impact will occur to areas under different ownership, unless the affected landowner has granted prior permission.
- A hydrological study is critical in determining potential impacts to watercourses as well as fish and fish habitat by ensuring that the drainage plan maintains the natural hydrological budget and the water quality associated with the watercourse. If there is more than one drainage area, the percentage going to each drainage area needs to be maintained. A hydrological study is required and must include the following:
 - data used for the assessment of the hydrological budget – size of drainage area and percentage of water coming from the bog;
 - annual precipitation data (snow and rain);
 - how quickly will the site be drained;
 - will the flow rate of water from the sedimentation ponds affect the channel dynamics of receiving watercourse?
 - impacts of the access roads on hydrology?
- A sedimentation pond that discharges to a vegetated buffer i.e.: overland flow, (preferably 50 m or more) would be the ideal approach to drainage as a precautionary approach. If the discharge is linked to the receiving water, then Sections 35 (1) and 36(3) of the Federal Fisheries Act would apply:

Section 35(1) *“No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat.”*

Section 36(3) *“the deposit of a deleterious substance into waters frequented by fish is prohibited.”*

5.0 SUMMARY OF PROPOSED MITIGATION

Describe all mitigative measures that will be employed to minimize the potential environmental impacts identified above. These should include but are not limited to the following:

- a water quality monitoring plan for the sedimentation ponds and the nearby watercourses (discussed or an outline provided). Monitoring data from the last two years of proponent’s other operations also needs to be provided;
- if vacuum harvesters are to be used, what kind of dust controls will be used? Provide a description thereof;
- dust minimization techniques for peat stockpiling area and at the bagging facility (if applicable);
- how dust will be minimized/controlled during the transport of peat on and off site;
- the method(s) for controlling site access;

- measures that will be taken to prevent the entry of windblown particles into the watercourses and subsequent transport of these into river, estuarine and marine habitats downstream;
- any additional measures required to ensure the particulates do not enter a watercourse even with adverse rain conditions; and
- buffer widths around the peat development, as well as the vegetation type within these buffers (i.e. open or tree covered). Note that as a general guideline a 50 metre “no-development” zone between the developed area of the peatland and a forested buffer as well as between the peatland and watercourses to be protected, is required. These buffers must be indicated on the site plan.
- Note that an Environmental Protection Plan (EPP) will be required prior to the start of construction. Please refer to Appendix 3 for further information.

6.0 PUBLIC INVOLVEMENT

See Registration Guide

7.0 APPROVAL OF THE UNDERTAKING

See Registration Guide

8.0 FUNDING

See Registration Guide

9.0 SIGNATURE

See Registration Guide

10.0 SUBMISSION INSTRUCTIONS

See Registration Guide

SPECIFIC APPENDICES

Fish and Fish Habitat Survey Forms (Appendix 1)

Surveying of Vascular Plants for Peat Bogs (Appendix 2)

Peatland Development Environmental Protection Plan (EPP) (Appendix 3)



Detailed Stream Habitat Survey

The detailed habitat survey has been designed to collect specific aquatic habitat information. The detailed survey should be completed at low base summer flows when available habitat is limiting. Two or three person field crews are required to perform the detailed habitat survey.

Form Header

- **River** - name the river system (including branch, if applicable)
- **Start point** - identify using permanent or measurable features; identify on field map; record starting point of stream survey section for each day
- **End point** - identify using permanent or measurable features; identify on field map; record ending point of stream survey section for each day
- **Personnel** - provide names of personnel
- **Date** - provide date (year/month/day) of stream survey
- **GIS Map No.** -
 - **Drainage Code** - can include up to 5 drainage codes
 - **Stream order No.** (from map or table)
 - **Stream/River No.** (a unique No. available from DNR)

Columns:

Reach No.

Reach numbers are predetermined during mapping to facilitate locating the fieldwork. More than one reach may be completed each day so it is important to identify start and end points where necessary.

Unit No.

Unit numbers are consecutive numbers representing each habitat type identified within the stream.

Exception: The unit number is repeated where there is a main and side or a split channel combination identified.

Stream Type

Identify and record stream habitat type from table below (see Glossary for descriptions).

STREAM HABITAT TYPE				
FASTWATER		POOLS		
1. Falls	6. Sheet	10. Midchannel	15. Plunge	20. Log Structure
2. Cascade	(ledge)	11.	16.	21. Road Crossing
3. Riffle (Gr/Rb) ¹	7. Chute	Convergence	17. Bogan	22. Wood Debris
4. Riffle (Rk/B) ²	8. Run	12. Lateral	18. Eddy	23. Man-Made Dam
5. Riffle (Sand)	9. Rapid	13. Beaver	19. Gabion	24. Natural Deadwater
		14. Trench		

Note: ¹ Gr/Rb = gravel / rubble riffle ² Rk/B = rock / boulder riffle

Channel Type

Denotes the configuration of the channel in each habitat type (see table for details).

CHANNEL TYPE			
1.	Main	-	the primary stream containing the major stream flow
2.	Side Channel	-	a secondary channel containing a portion of the stream flow from the main channel
3.	Split	-	if stream is split into various different habitat types
4.	Bogan	-	area of slow moving water partially isolated from the flow of the main channel

- If there is a main/side channel or a split combination identified, the channel position is specified left (L), right (R) or middle (M). If stream has braided further, lump channels accordingly.

Length (m)

- The length of each stream type.

Width (m)

- The wetted width of each stream type using a survey pole, chairman or best, optical range finder.

Bank width (m)

- The bank width of each stream type identified by mean high water level or width between the initiation of riparian roots exposed by high water.

Substrate Code

- Based on the chart below, identify and record the percent of substrate represented in each stream type.
- The total percent of substrate will equal 100%, with no single value less than 5%.

SUBSTRATE CODE			
1. Bedrock, Ledge			
2. Boulder	=	>	461 mm
3. Rock	=	180	- 460 mm
4. Rubble	=	54	- 179 mm
5. Gravel	=	2.6	- 53 mm
6. Sand	=	0.06	- 2.5 mm
7. Fines	=	0.0005	- 0.05 mm

Estimated Average Depth - Wet Width (m)

- The mean depth of the wetted portion of each stream type; use a graduated pool or meter stick.

Undercut Bank (%)

- Visually determine the percent of the length for both the left and the right stream bank separately that is undercut, but covered with water, for each stream type.
- This value does not exceed 50% for either the left or right stream bank providing a total no greater than 100% for both banks.
 - i.e. length of stream type = 100 m
right bank has 50 m undercut bank = 25% of total length
left bank has 10 m undercut bank = 10% of total length
- Note: The total available length of undercut bank is 60 m.

Overhanging Bank Vegetation (%)

- The percent of the wetted area covered by terrestrial vegetation that actually touches or nearly touches the water thereby providing overhead cover for fish.
- This value does not exceed 50% for either the left or right stream banks providing a total no greater than 100% for both banks.
 - i.e. area of stream type = 100 m²
right side has 50 m² overhanging vegetation = 50%
left side has 25 m² overhanging vegetation = 25%
- each side can have a maximum of 50 m².
- total stream area of overhanging vegetation = 75%

Large Woody Debris in Stream (m)

- An estimate of the total meters of woody debris (10 cm in diameter or greater) within the wetted area for each stream type.

Flows

- 1) Type
 - Identify the type of flow being measured (see table for details). The main stream flow should be measured at least every stream order whereas every tributary stream, spring or spring seep should be measured and recorded.

FLOW TYPE	
1.	Survey Stream
2.	Spring - water source to river/stream bottom (upwelling)
3.	Brook/ River Tributary - stream entering survey stream
4.	Spring seep - water without a discernable channel flowing into survey stream

- 2) See Reconnaissance Section 2(ix) for details on flow calculation methodology
- 3) Time
 - Based on 24 hour clock, record the time temperatures were taken.
- 4) Temperature
Air/Water (°C)
 - Temperatures between 1300hrs and 2100hrs are especially important to obtain a more accurate representation of daily high temperature that often determines an ecosystem reach.
 - If possible also obtain a morning temperature to determine the extent of fluctuation.
 - Note: do not take air temperature in direct sunlight.

% Substrate Embeddedness

- Remove various pieces of rock and/or rubble from the streambed of each stream type, estimate the percent embeddedness into sand and fines, and record the number (chart below) for the criteria represented.
- If rock and/or rubble substrate is not present, % substrate can not be calculated.

EMBEDDEDNESS	
NUMBER	CRITERIA
1	≤ 20%
2	20 - 35%
3	35 - 50%
4	≥ 50%

Comments

- Using the checklist of land -water use attributes, record appropriate number(s) for each stream type.

Please Note: Record any additional information pertinent to the habitat unit, such as pool name fishes present, ect., on the line directly below the habitat unit information line. Use as many lines as you wish to detail your observation(s).

The reverse side of the inventory form is optional; it has been designed to be used for a DFO salmonid modelling exercise; persons interested in applying this technology should contact DFO's habitat biologist in Halifax, NS (902-426-3573) to apply data to the intended habitat model.

Additional DFO Survey Parameters

- Divide each Reach into Site numbers equalling 50 m intervals
i.e., Reach 1, Site 1 is the first 50 m interval
Reach 2, Site 2 is the second 50 m interval.

% Site

- Estimate the percent of the riffle/run stream type and the percent of pool stream type within the 50 m interval.

Shade (%)

- Estimate the percent of the stream type which would be shaded between 1000hrs and 1400hrs.

Stream Banks

- 1) Vegetation (%)
 - Estimate the percent of bare ground, grasses, shrubs and trees for each of the stream banks.
 - These stream banks will have a direct impact on the stream.
 - Additive values should not exceed 100%.
 - Note: Shrubs category includes alders, dogwood and willows.
- 2) Erosion (%)
 - Estimate the percent each stream bank is stable, bare stable or eroding.
 - This value does not exceed 50% for either the left or right stream banks providing a total no greater than 100% for both banks.

EROSION		
Stable	-	Stream banks covered in vegetation
Bare stable	-	Stream banks are rock or root bound.
Erosion	-	Stream banks are eroding, sediment being lost to the stream.

Water Quality (when equipment is available)

- 1) O₂ - Oxygen of the river/stream system, measured in mg/l.
- 2) pH - The pH of the river/stream system.

Depth

- 1) Wetted
 - within the 50 m interval, measure the wetted depth of the riffle/run stream types at 1/4, 1/2 and 3/4 of the distance of the wet width.
- 2) Channel
 - within the 50 m interval, measure the channel depth of the riffle/run stream types at 1/4, 1/2 and 3/4 of the distance of the channel width.

Pool Rating Criteria

- 1) No.
 - determine the pool depth then estimate the percent of stream cover.
- 2) Letter
 - determine the percent of the pool within

Pool Tail

- 1) Embeddedness
 - see xvi)
- 2) Mean Substrate Size
 - visually determine mean substrate size
- 3) % Fine
 - estimate the percent of fines (includes sand)

Turbulence (%)

- degree of disruption of surface water resulting in reduced water visibility

Materials Required for Stream Inventory

Side one and Side two

DNRE/DFO Stream Survey and Habitat Assessment Form
(Waterproof paper)
Stream Code Numbers - predetermined in the mapping exercise
Aerial Photos
Clipboard

Pencils
Chainman and String (plus spare rolls)
Thermometer
Meter stick or 3-metre canoe pole with measured increments
Measuring Tape
Whiffle ball (flotation device)
Stopwatch
Flagging Tape

For additional information on the above please contact the Fish and Wildlife Branch of the Department of Natural Resources (Tel: (506) 453-2440).

APPENDIX 2

RECOMMENDED METHODS FOR THE SURVEYING OF VASCULAR PLANTS AT RISK (RARE, THREATENED, REGIONALLY ENDANGERED OR ENDANGERED) FOR EIA OR SIMILAR STUDIES

INTRODUCTION

The purpose of this kind of survey is to document the presence or absence of vascular plants that are believed to have a degree of rarity over a selected area. Plants in this category are often inconspicuous and difficult to identify. Many of them are cryptic in the sense that they may be very similar to other, more common species. They are not distributed randomly and they are rare primarily because they have specialised habitats, which only occur sporadically across the landscape.

Vegetation analysis with random sampling techniques using small quadrates is definitely **NOT** the method to use to survey an area for plants at risk. Random sampling using quadrates provides a generalised analysis of the vegetation, which is not the object of this exercise. The object is to specifically search for those species that would rarely or never be found by random sampling because they are not a common element of the vegetation.

FIELD METHODS OF SURVEYING

1. Aerial photographs, geological and topographic maps should be consulted to obtain a general sense of the geology, topography, vegetation, roads and other important features of the area. Preliminary notes should be made of those areas, which might support populations of rare plants. Rock outcrops, stream outlets, and rich calcareous fens are some of the areas to note. Tentative survey routes should be drawn on the map and as many microhabitats as possible should be sampled, especially those suspected of yielding rare plants.
2. A search of relevant literature concerning rare plants of the area should be undertaken and those rare species of the habitat in question should be carefully studied, preferably from herbarium specimens if available. Notes should be made on these species and photostatic images of each taxon carried in the field.
3. In the field, the planned survey route should be followed as well as ground conditions allow. However, local conditions will dictate to some degree where the survey will be conducted. Survey coverage may be deemed adequate if the surveyor feels secure that a good sampling of all vegetation zones or ecosites has been accomplished. In this case, sampling means that a reasonable number of sites have been carefully and fully examined.

If the habitat is relatively homogeneous, less time need be spent sampling the area that if there are many different microhabitats. More species, including rare ones, will be found in an area of many microhabitats.

4. The survey botanist should be able to identify by sight the vast majority of the vascular flora of the area. It can be assumed, therefore, that any unidentifiable vegetation may be rare and a specimen should be collected for later identification in the laboratory. Notes on the habitat, number of plants in the population, and any other features that may assist in the identification should be noted. Flowers, upper and lower leaves and fruit should be collected if possible. These specimens, carefully labelled, pressed, dried and mounted will serve to document their presence in the area. Rare plant sites should be marked with conspicuous flagging tape and located as accurately as possible on the survey maps so that important populations may be found again if necessary.

The survey is to be done in August. Whenever possible, repeat surveys should be run in order to observe plants which may only be conspicuous in spring, summer or fall.

5. It should be remembered that many of the rare plants are grassy-sedgy-looking species or inconspicuous aquatics and not very showy. These taxa should be searched carefully along the survey route and all unknowns should be sampled.
6. As complete a list as possible of all the vascular plants should be compiled during the surveys and their relative abundance recorded before leaving the site (while it is still fresh in memory). Abundance classes may be recorded as follows:
 - (a) Rare at this site - only one or two populations observed.
 - (b) Three or more populations observed - mostly scattered.
 - (c) Uncommon at this site but found occasionally throughout.
 - (d) Observed consistently throughout, but coverage may not be large.
 - (e) Commonly found throughout, often with considerable coverage.
7. To help keep track of the distribution and numbers of unknown taxa, it is useful to give them a name based on some readily identifiable feature, e.g. prickly-fruit plant, yellow-orchid-like plant, etc. Once identified, the scientific name may be substituted.
8. Information generated in this way is of considerable importance to the New Brunswick Committee on Endangered Species and especially to the Plant Subcommittee. Please contact AC CDC or New Brunswick Museum if you have any questions concerning this methodology, to deposit specimens or to obtain assistance with identifications.

APPENDIX 3

Peatland Development Environmental Protection Plan (EPP):

(Discuss each of the following items including protection measures as appropriate for your site)

1. CONSTRUCTION ACTIVITIES:

A. Construction schedule and sequencing of construction activities

- this should include a discussion on how activities will be scheduled to avoid disturbance of migratory birds and other wildlife species during the breeding season

B. Erosion control mechanisms (include diagrams, and locations on plans) and surface water management

- for all construction including ditches, sedimentation ponds, grubbing, access roads, culvert installation and buildings

Key Elements of an Erosion and Sedimentation Prevention and Control Strategy:

- construction activities are coordinated with seasonal constraints (e.g. clearing, grubbing, and excavation activities to avoid periods of heavy precipitation; shut down and stabilize the work site in accordance with pre-established criteria in advance of the winter season - before re-vegetation is no longer possible)
- measures are implemented, in advance of grubbing and excavation activities, that will allow surface water drainage to be diverted around the work area
- all perimeter control structures (e.g. silt fencing, sediment traps, settling ponds) are installed prior to any land disturbance (locations to be indicated on site plans)
- vegetated buffer zones are maintained as appropriate to protect resources at risk
- any exposed soil is stabilized as soon as possible
- sediment control structures are maintained (by repairing structural problems during and after storm events, removing accumulated sediment at regular intervals or at designated capacities, and by disposing of it at an approved site);
- water on-site will be diverted through a sedimentation pond and sampled for suspended solids prior to discharge. Suspended solids concentrations within effluent released from the construction site shall not exceed 25 mg/L.
- further mitigative actions are taken as necessary based on monitoring results

C. Clearing and grubbing

- specifics on storage or disposal of material (environmentally preferable alternatives to burning include establishment of habitat, mulching or composting)

D. Access Roads

- culverts/bridges – Watercourse and Wetland Alteration permit will be required
- within 30 metres of watercourses (buffer zone management, erosion control, stabilization)- Watercourse and Wetland Alteration permit will be required
- information should be provided that indicates existing drainage patterns will not be altered by construction of the access roads

E. Stockpiling of peat

- location of piles and description of measures for stabilization of piles

F. Storage, handling and transfer of fuels and other hazardous material

- the site plan should indicate the designated locations for refueling and storage of fuels
- applicable local, provincial and federal requirements should be identified

2. CONTINGENCY PLANS:

- fuel spills, specify protocol (e.g. clean-up procedures, restoration of the site) and emergency telephone numbers (internal and external) to call